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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/080,836

02/22/2002

Charles M. Heldebrant

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9605

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7590

05/26/2004

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EXAMINER

MCKANE, ELIZABETH L

ART UNIT

PAPER NUMBER

1744

DATE MAILED: 05/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/080,836

Applicant(s)

HELDEBRANT ET AL.

Examiner

Leigh McKane

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-71 is/are pending in the application.
4a) Of the above claim(s) 1-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37-50, 64, 67 and 69-71 is/are rejected.
- 7) ☒ Claim(s) 51-63, 65, 66 and 68 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 102

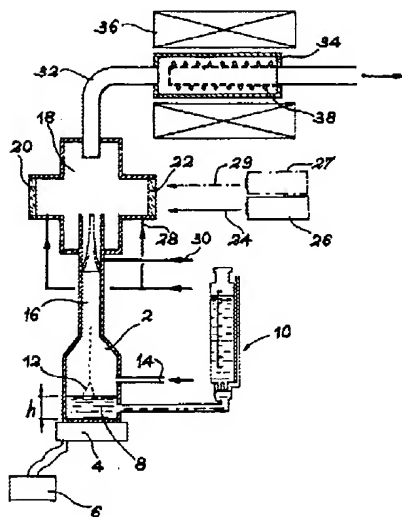
1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 37, 38, 42-44, and 64 are rejected under 35 U.S.C. 102(b) as being anticipated by Cauchetier et al (FR 2677558).

Cauchetier et al teaches a method of treating a material wherein a liquid solution of



material 8 is separated into droplets 12 which are then passed through an exposure region 18 and exposed to a source of energetic emission 27,28. A source of inert gas (Argon) is injected at several locations 28,30 within the exposure region and is disclosed by Carchetier et al to surround the droplets axially, thus urging them away from the walls of the exposure region. Drying chamber 34 collects the treated particles.

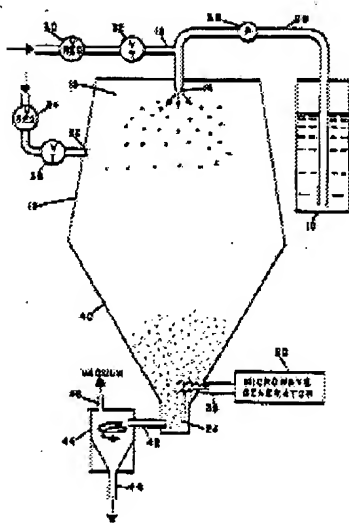
Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

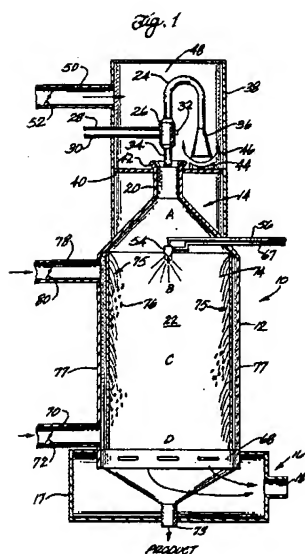
4. Claims 37, 38, 41-47, 49, 50, 64, 67, and 69-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haugh (U.S. Patent No. 4,549,053) in view of Shaw et al (U.S. Patent No. 5,209,821).

With respect to claims 37, 38, 42, 64, 67, and 69-71, Haugh teaches a method of treating



a material wherein nozzle 14 creates droplets that are passed through an exposure region 40 where they are subjected to an energetic emission from source 20. The rate at which the droplets are created is controlled (col.4, lines 21-23). A collection chamber 24 collects the treated droplets and a gas filter (vacuum) removes gas from the flow. A product that may be treated by the method of Haugh includes pharmaceuticals and protein-containing materials. Haugh does not disclose a gas nozzle arranged within the exposure region designed to produce a

flow of gas along the walls of the exposure region such that droplets are urged away from the walls of the exposure region by the gas flow.



Shaw et al teaches a similar method of treating material, wherein the energetic heat source (microwave generator) is substituted with a source of hot air. In addition, Shaw et al discloses the use of at least one gas nozzle 70,78 which are arranged to produce an air curtain within region 22, thereby preventing droplets from contacting the walls of the region. Shaw et al discloses that the turbulence created

Art Unit: 1744

within the chamber tends to create eddies, urging the product to impinge the wall, affecting product quality. Since Haugh discloses that drying gas is introduced through port **22** will cause a swirling motion in the chamber (col.4, lines 4-11), it would have been expected that wall impingement would have been a problem, and the corresponding affect on product quality also a problem. Thus, it would have been obvious to modify the apparatus of Haugh using the teachings of Shaw et al to include an air curtain.

As to claim 41, Haugh teaches producing droplets that are “finely divided or mist like” (col.2, line 8) but does not disclose droplet size. Shaw et al discloses producing droplets of a “substantially uniform particle size of about 20 microns” (col.11, line 68 to col.12, line 1). As Shaw et al teaches that “the particulation of the feedstock into small droplets maximizes the surface area available for removal of moisture” it would have been obvious to use the same size particles in the method of Haugh who discloses the remove the volatiles from the droplets.

With respect to claims 43, 44, 49, and 50, Haugh discloses that when a gas is supplied to the chamber is can be inert toward the material being treated, e.g. helium or nitrogen.

As to claims 45-48, Haugh teaches that the gas introduced at port **22** controls the speed at which the droplets fall. See col.2, lines 16-22.

5. Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haugh and Shaw et al as applied to claim 38 above, and further in view of Rentz (U.S. Patent No. 3,677,447).

The droplet formation device **14** of Haugh is not disclosed to be a needle. Rentz teaches

a droplet formation device 5 which is a 27 gauge needle. It is disclosed by Rentz that the device can dispense very minute quantities of liquid. For this reason, it would have been an obvious substitute for the droplet formation device of Haugh.

Claim Objections

6. Claim 42 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 42 contains no limitations.

Allowable Subject Matter

7. Claims 51-63, 65, 66, and 68 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: The closest prior art, Cauchetier et al and Haugh fail to teach or suggest: (a) a flow control that is at least one pair of charged plates designed to create a charged field within the exposure region; (b) a flash lamp emitter; (c) a gamma ray emitter; (d) a collection chamber having a low surface energy coating; or (e) a temperature controller arranged to maintain a constant temperature within the exposure region.

Response to Arguments

9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

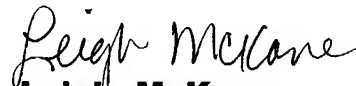
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh McKane whose telephone number is 571-272-1275. The examiner can normally be reached on Monday-Wednesday (7:15 am-4:45 pm).

Art Unit: 1744

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Warden can be reached on 571-272-1275. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Leigh McKane
Primary Examiner
Art Unit 1744

elm
21 May 2004